REMARKS/ARGUMENTS

Claims 1-11 are pending in this application.

Claims 1-2 and 6 had been rejected under 35 U.S.C. § 103(a) over Kato et al. (U.S. Patent No. 6,021,137) and Merwin et al. (U.S. Patent No. 5,691,691) in view of De Vaul (U.S. Patent No. 3,479,628). This rejection is respectfully traversed for the following reasons.

If examination at the initial stage does not produce a prima facie case of unpatentability, then without more the applicant is entitled to grant of the patent.[1] The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of non-obviousness.[2]

The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."[3] "[T]o determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue . . . this analysis should be made explicit. . . . [A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. . . . [I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does."[4]

Claims 1-2 and 6 comprise a timing signal source periodically transmitting phase-coded timing signals comprising one or more phase-coded timing signal symbols and **(1)**

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[1] *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)
[2] *Manual of Patent Examining Procedure* § 2142 (8th ed. rev. 7 July 2008)
[3] *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR International Co. v. Teleflex Inc.* [hereinafter *KSR*], 550 U.S. 398, 418, 82 USPQ2d 1385, 1396 (quoting Federal Circuit statement with approval)
[4] *KSR*, 550 U.S. at 418, 82 USPQ2d at 1396

using an AC current to determine when each phase-coded timing signal symbol is transmitted and **(2)** using the same AC current to phase-code each timing signal symbol.

Claims 1-2 and 6 comprise each slave unit **(3)** using the same AC current to determine when each phase-coded timing signal symbol is received and **(4)** using the same AC current to decode each phase-coded timing signal symbol.

The pending Office Action (page 3) states that "Kato discloses a timing signal source . . . using a reference signal to determine when each timing signal is transmitted (column 7, lines 58-65, wherein the polling signal is the timing signal)."

Applicants respectfully disagree.

The cited portion of Kato reads: "In the data collector 1, the control section 11 generates a polling signal PS by controlling the polling generating circuit 12 periodically or non-periodically. This polling signal PS is superimposed on the power line 5 as a spread signal after being subjected to spread spectrum modulation by the spreading section 21 with the spread code SC1. With this feature, polling is executed from the data collector 1 to all the terminal units 2, 3, and 4."

In Claims 1-2 and 6 of the present application, the **AC current is used** by a timing signal source to determine **when to send a timing signal**. However, in the cited portion of Kato, contrary to Claim 1, **nothing indicates** how to determine **when to send the polling signal.**

The pending Office Action (page 3) states that "Kato discloses . . . each numbered slave unit receiving at least one timing signal and using the voltage to determine when each timing signal symbol is received (column 13, lines 65 – col. 14, lines 1-5, wherein the superimposed spread signal on the power line is the voltage)."

Applicants respectfully point out that in the above statement "the timing signal", "the voltage", and "the superimposed spread signal" are the same thing; and that the cited portion of Kato reads: "Then, the data collector 80 superimposes a spread signal on the power line 5 periodically or non-periodically according to the polling signal PS, and polling is executed to the groups G1 (terminal units 90, 100) and G2 (terminal units 110, 120) in batch. The terminal units 90 and 100 in the group G1 provide response signals A11 and A12 prepared in a common certain period of time t11 preset respectively to spread spectrum modulation and transmit the signals to the data collector 80 as spread signals respectively."

Note that the slave units in Kato use the spread signal superimposed on a power line as the timing signal.

Contrary to what is stated in the pending Office Action, Kato **does not** use a spread signal superimposed on a power line to determine when each timing signal symbol is received, because the spread signal superimposed on a power line in Kato ***is*** the timing signal.

In other words, in Claims 1-2 and 6 of the present application, the **AC current is used** by slave units **to determine when to receive a timing signal**. However, in Kato, contrary to Claims 1-2 and 6, **nothing is used** by slave units **to determine when to receive a timing signal** (spread signal superimposed on a power line), except the timing signal itself.

The pending Office Action (page 4) states that "Kato does not disclose the superimposed signal includes AC current on a power line to determine when each timing symbol is received. However, it is well known in the art that the AC power line includes a superimposed AC current (column 1, lines 25-36, column 3, lines 10-25)." This is the **only** time AC current is explicitly mentioned in connection with the rejection of Claims 1-2 and 6 in the pending Office Action.

Applicants respectfully point out that the fact that an AC power line usually carries an AC current has nothing to do with **how the AC current is used.**

Claims 1-2 and 6 of the present application comprise: **(1) using an AC current** to determine when each phase-coded timing signal symbol is transmitted, **(2) using the same AC current** to phase-code each timing signal symbol, **(3) using the same AC current** to determine when each phase-coded timing signal symbol is received, and **(4) using the same AC** current to decode each phase-coded timing signal symbol. Kato neither discloses nor implies any of the four uses of the same AC current cited above.

The pending Office Action (page 4) states that "Merwin discloses the slave units determine when each time symbol is received (column 3, lines 32-36)."

Applicants respectfully disagree.

The cited portion of Merwin reads: "Each receiver 18 is operable to detect pulses inserted in the AC voltage by the pulse transmitter 16 and to translate a predetermined sequential pattern of pulses into a corresponding predetermined message."

There is **nothing** in Merwin (including the cited portion) to indicate that the signals transmitted as pulses in Merwin are **timing signals**. In other words, **Merwin, does not disclose using AC current to determine when each timing signal symbol is received as recited in Claims 1-2 and 6 of the present application,.**

The pending Office Action (page 4) states:

> De Vaul discloses a phase coded timing signal (column 2, lines 55-59) and generating time markers (column 4, lines 38-50). Thus, it would have been obvious to one of ordinary skill in the art to utilize the phase coded signal as disclosed by De Vaul along with the system as disclosed by Merwin along with the data collection system as disclosed by Kato. Thus, it would have been obvious to one of ordinary skill in the art at the

time of invention to utilize the slave determination as disclosed by Merwin along with the system of Kato.

However, De Vaul does not mention any AC current, and, therefore, does not mention using an AC current to phase-code any timing signal symbols or using an AC current to decode any phase-coded timing signal symbols, as recited in Claims 1-2 and 6 of the present application.

Neither Kato, nor Merwin, nor De Vaul, neither separately, nor in any combination disclose, or teach, or imply using AC current to determine when to receive a timing signal, as recited in Claims 1-2 and 6 of the present application.

Furthermore, Claims 1-2 and 6 of the present application recite **the same AC current being used: (1)** to determine when to transmit timing signals, **(2)** to phase-code the timing signals, **(3)** to determine when to receive the phase-encoded timing signals, and **(4)** to decode the phase-encoded timing signals.

These four uses of the same AC current are not disclosed, not taught, and not implied in Kato, Merwin, De Vaul, or any combination thereof.

Neither Kato, nor Merwin, nor De Vaul, alone or in any combination thereof disclose or teach the same AC current being used: (1) to determine when to transmit timing signals, (2) to phase-code the timing signals, (3) to determine when to receive the phase-encoded timing signals, and (4) to decode the phase-encoded timing signals, as recited in Claims 1-2 and 6 of the present application. Therefore, Claims 1-2 and 6 are non-obvious over Kato, Merwin, and De Vaul under 35 U.S.C. § 103(a) and should be allowed.

Claim 4 had been rejected under 35 U.S.C. § 103(a) over Kato, Merwin, and De Vaul in view of Tanaka et al. (U.S. Patent No. 4,998,245). Claims 3, 5, and 7-11 had been rejected under 35 U.S.C. § 103(a) over Kato, Merwin, and De Vaul in view of Lester et al. (U.S. Patent No. 6,784,790). These rejections are respectfully traversed for the following reasons.

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious.[5]

Claims 3-5 and 7-11 depend on Claim 1, which, as explained above, is non-obvious. Therefore, Claims 3-5 and 7-11 are patentable over Kato, Merwin, De Vaul, Tanaka, and Lester under 35 U.S.C. § 103(a) and should be allowed.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited in this case. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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[5] In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).